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## Multi Criteria Analysis for Selecting Sharia Capital Market Management Investment Using ANP

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### ABSTRACT

*The society orientation has shifted from a saving-oriented society to an investing-oriented society. Currently, investors have many choices of investment instruments to invest in the Islamic capital market. Previous studies have shown the factors that influence the capital market and influence investors' decisions to invest in the capital market. This study uses the Analytic Network Process (ANP) method to (1) determine the criteria that need to be taken into consideration in choosing an Islamic capital market investment instrument. (2) knowing the ideal investment instrument based on established criteria. The criteria used in this study include seven criteria, namely: investment performance criteria, risk criteria, liquidity criteria, macroeconomic factor criteria, individual circumstance criteria, psychological factor criteria, and demographic criteria. The respondents in this study were five experts from academics, practitioners, and regulator. The major findings of the research are (1) the criteria to be considered in choosing Islamic capital market investment instruments are divided into investor criteria and capital market criteria. Investor criteria include; psychological factors (motivation and self control), individual circumstances (financial literacy), demographics (income and education). Capital market criteria include: investment performance (capital gain, yield, and fundamental analysis), risk (financial risk, market risk and management risk), macroeconomic factors (exchange rates and gross domestic product), liquidity (liquidity ratio). (2) the alternative with the highest priority is sharia mutual funds, then sukuk and sharia stocks.*

## 1. INTRODUCTION

Nowadays, investment can be viewed as a necessity. There are two reasons why someone needs to invest; the first is because the financial phase continues to move as the needs of life increase, and the second is due to inflation which also determines the value of the needs itself (OJK, 2018). People's habits have begun to change from a savings-oriented society to an investment-oriented society. Since 2013, IDX has issued the idea of restructuring the people's perspective from a saving society to an investing society. One type of investment is capital market investment. Capital market investment is considered important for the economy because it provides two functions at once, namely an economic function and a financial function. The capital market is said to have an economic function because it provides facilities that bring together excess funds (investors) and those who need funds (issuers). And it is said to have a financial function because it allows the owner of the fund (investor) to get a return (Manan, 2009). Apart from allowing investors to earn returns, investing also carries risks.

Investment decisions are multi-criteria decisions because investors' decisions are influenced by many factors. Decisions in investment are related to the benefits to be obtained and the risks to be faced (Manan, 2009). Many aspects influence and need to be considered in choosing a capital market investment instrument. Lack of information regarding the factors that need to be considered in investing causes people to be inaccurate in choosing the appropriate investment, causing losses.

Research to assist investors in making decisions in the capital market, among others; Fazli and Jafari (2011) developed a combination of multi-criteria decision making techniques for choosing stock investments in the capital market. This technique combines DEMATEL and ANP methods to show the relative relationship between criteria and determine the relative weight of each criterion. This technique also uses the VIKOR method to sort and select the best alternative for investing in the capital market. Raei and Jahromi (2012) in their research proposed a combination of fuzzy ANP, VIKOR and TOPSIS techniques to obtain optimal investment portfolios. The model proposed in this study uses feedback from decision makers based on multiple criteria decision making techniques. Shin, Yan and Tzeng (2013) conducted a study combining the VIKOR and DANP (DEMATEL-based ANP) methods for selecting glamorous stocks and improving stock performance. The results indicated that the method was effective and had significant implications for investors and the management team. This study combines the MADM method to take expert opinion for glamor stock selection. The method offered not only helps identify the ideal glamorous stock, but it can also be used by the glamor stock management team to prioritize their performance improvement plans. This study combines the MADM method to take expert opinion for glamor stock selection. The method offered not only helps identify the ideal glamorous stock, but it can also be used by the glamor stock management team to prioritize their performance improvement plans. This study combines the MADM method to take expert opinion for glamor stock selection. The method offered not only helps identify the ideal glamorous stock, but it can also be used by the glamor stock management team to prioritize their performance improvement plans.

Chang and Chen (2011) have previously conducted research to select investment instruments. This research was conducted to select pension investments using the AHP-TOPSIS method. Research alternatives are limited to the individual retirement planning investment policy (IRPIP) of mutual funds (mutual funds), IRPIP of bonds (bonds) and IRPIP of stocks (stocks). Furthermore, Amin and Mustika (2017) conducted research using the ANP method to select the ideal investment for the community. The alternatives in this study are not limited to Islamic capital market investments, namely: deposits, insurance, gold, stocks, DPLK, and mutual funds.

The use of the ANP method is not limited to determining strategy. Ascarya (2015) uses the ANP method to determine the real causes of the financial crisis from an Islamic economic perspective in order to be able to formulate real solutions in overcoming financial crises.

There has not been any research that uses the ANP method to determine the criteria to be considered in choosing a capital market investment instrument based on expert opinion. Therefore, this study aims to identify the criteria to be considered in choosing the capital market Islamic investment and find out the ideal Islamic investment instrument based on ANP multi-criteria analysis.

## 2. LITERATURE REVIEW

**Definition of Investment.** Investment in short is the placement of money or funds with the aim of obtaining the expected profit (Manan, 2009). Meanwhile, the capital market is a place for trading long-term securities or financial instruments such as stocks and bonds issued by the government, public authorities and private companies (Rokhmatussa'dyah and Suratman, 2011). The Islamic capital market is a capital market whose products and transaction mechanisms do not conflict with sharia principles in the capital market (OJK, 2018).

**Instruments of Sharia Capital Market Investment.** Islamic capital market investment instruments, among others; sukuk, Islamic stocks, sharia mutual funds and sharia exchange traded funds. Sukuk are long-term Islamic securities issued by the issuer (emiten). Issuers are required to pay income to sukuk holders and pay back the sukuk funds at maturity (Manan, 2009). Sharia shares are proof of ownership of a company that meets sharia criteria (Manan, 2009). Islamic mutual funds are a instrument used to raise funds from the investor community to be invested in portfolios by investment managers (Darsono, 2017). And the last is Sharia exchange traded funds (ETF). Sharia ETF is a form of mutual fund whose units of participation are listed and transacted like Islamic stocks on the stock exchange (IDX).

**Factors to consider in investing.** Based on previous research, there are several variables that are considered and have an effect on investing. The first is investment performance. Investment performance consisting of yield, capital gain, fundamental analysis, capital structure, and rating. Yield and capital gain are elements of return on investment. Yield is income due to ownership of investment assets in the form of dividends, profit sharing, fees or margins (Nurlita, 2014). While capital gain is the difference between the purchase price and the selling price formed by secondary market activities (Nurlita, 2014). Next is fundamental analysis.

Fundamental factors are factors that determine the intrinsic value of a financial instrument. One of the fundamental factors is the capital structure. Capital structure is the amount of debt and equity that is used to finance company assets (Isnaini, 2013). The final element in the investment performance criteria is rating. Rating is an investment rating given by a rating agency. Rating also shows the risk scale of several traded bonds (Lubis, 2006).

The next criterion is risk, risk is an uncertainty that causes unwanted loss (Redja, 2007 in Saputra and Anastasia, 2013). Risks consist of; 1) Financial risk, is the risk faced by investors due to the inability of the issuer (stocks / bonds) to meet the obligation to pay for the results and principal of investment (Manan, 2009). 2) Market risk, is a risk that is caused by fluctuation (variability) of investment returns as a result of fluctuations in transactions in the market as a whole (Pardiansyah, 2017). 3) Management risk, the risk that occurs because of mistakes in management (Manan, 2009). 4) Call risk, is the possibility of buying back assets / securities by the issuer (Manan, 2009). And 5) Inflation Risk, is the risk caused by a decrease in people's purchasing power as a result of an increase in the price of goods in general (Pardiansyah, 2017).

The third criterion is liquidity. Liquidity is the ability to complete transactions in a short time and at a reasonable price (Schwartz, 1993 in Chang and Chen, 2011). Liquidity relates to the difficulty of converting funds into asset to asset and asset to fund, or the transaction costs of assets in the market. Including the bid-ask spread, market-impact costs, delays and search costs, brokerage commissions and fees (Amihud, 1992). Liquidity consists of; 1) Liquidity ratio, the relationship between the amount transacted and the price (Amihud and Mendelson, 1989 in Chang and Chen, 2011). 2) Amount of transaction, is the amount to be transacted (Chang and Chen, 2011). 3) Bid-ask spread, the bid-ask spread means the difference / spread between the selling price and the buying price (Chang and Chen, 2011). 4) Time of transaction, is the time required to complete a transaction (Chang and Chen, 2011). And 5) Market elasticity, which shows the ability of the effect to maintain its intrinsic value (Chang and Chen, 2011).

Next are macroeconomic factors. According to Wu et al., 2008 in Chang and Chen, 2011 macroeconomic factors affect investment performance. Macroeconomic factors consist of: 1) Exchange rate, exchange rate is the price or value of a country's currency expressed in another country's currency (Isnaini, 2013). 2) The amount of money in circulation, is the total currency and demand deposits plus savings and deposits circulating in the country (Nurdiana, 2016). 3) Gross Domestic Product, is the market value of all goods and services produced by a country. 4) Consumer Price Index, is an indicator for measuring commodity prices at the consumer level (Chang and Chen, 2011). And 5) Trade Balance, is a balance surplus / deficit of export and import.

From the investor side, the first consideration is the individual circumstance criteria. Individual circumstance consists of; 1) Financial literacy, is the level of knowledge and understanding of the capital market, institutions, products and services, as well as skills in knowing the features, benefits, risks, rights and obligations of these financial products and services (OJK, 2017). 2) Saving, is the difference between income and consumption expenditure (Chang and Chen, 2011). 3) Investment value, shows the value of assets to the owners, depending on expectations

and needs. The price an investor is willing to pay for an asset (Business Dictionary). The investment value is the value of a company or stock (business interest) or interest in a company that is specific to an investor, based on or related to certain requirements of an individual or group of investors (Amin, 2017). 4) Time period, is the investment period (Amin, 2017). And 5) Religiosity, is knowledge of belief and practice of religious values (Fitriani, 2016).

The second criterion on the investor side is demographics, demographic factors consist of; 1) Education, is the level of education of investors. 2) Income, income in the form of salary, income, or acquisition (KBBI). 3) Age. 4) Gender. And 5) Region, indicating the area of residence, urban or rural.

The last criterion is a psychological factor. Psychological factors consist of; 1) Motivation, is an encouragement to take certain actions in an effort to meet their needs (Malik, 2017). 2) Self-control, is the behaviour of investors to receive profits early and ignore things that are not fun / don't bring profit (Iramani, 2011). 3) Familiarity, is an assessment based on something that is already known (Iramani, 2011). 4) Representative, selection based on stereotypes, namely two things that are definitely the same. For example, good company good stock (Iramani, 2011). And 5) Data Mining, using past data to find patterns in order to predict the future (Iramani, 2011).

### 3. RESEARCH METHODS

The research method used was Analytic Network Process (ANP). ANP is a multi-criteria decision-making research method, which is a decision-making technique to determine the best alternative from a number of alternatives based on certain criteria (Rusydiana and Devi, 2013). This is because decision making is generally faced with various underlying criteria (Tanjung and Devi, 2018).

**ANP foundation.** ANP has three axioms on which to base its theory: (1) The weight or level of importance between the criteria and sub-criteria is reciprocal. (2) Homogeneity. The elements being compared do not differ too much. (3) Each element and components depicted in the hierarchical network and feedback can truly represent so that they are in accordance with existing conditions and the results are also as expected (Ascarya in Tanjung and Devi, 2018)

**ANP Procedure.** *First*, creating an ANP model or framework. The ANP research stage begins with the creation of an ANP network model by decomposing the problem. Networking is structured based on theoretical and empirical literature reviews, and provides questions to experts and practitioners of the Islamic capital market and through in-depth interviews to examine the information more deeply and determine the effect between criteria or sub criteria.

In the ANP method there is no limit to the number of respondents, the requirements to be respondents are those who are experts in the field being researched. They are; practitioners whose daily activities are involved in the problems studied, academics who generally understand the theory of the problem being studied (Hendri and Devi, 2018).

According to Turpin and Marais (2004) in Hendri and Devi (2018), expert criteria that can be used in research are; (1) an expert must really understand the problem of rising as a whole; (2) an expert must have a lot of information or sources of information needed; (3) have supporting technology. Or have made decisions and have their own methods of making decisions.

*Second*, model quantification. The next step is to apply the model to the ANP software. The quantification stage of the model uses questions in the ANP questionnaire in the form of pair-wise comparisons between elements in the modified cluster in table form to find out which of the two has the greater influence (more dominance) and how big the difference is through a numerical scale 1-9. The next step is to survey respondents. Respondents were asked to determine priorities that were most important or had an influence on the problem. Experts come from academics, regulators and practitioners. The five experts are as follows:

1. Tika Kartika, Academician, lecturer in Sharia Economics Department, Ibn Khaldun University, Bogor
2. Nur Hasanah, regulator, IKNB Otoritas Jasa Keuangan
3. Sutrisna Amijaya, Practitioner, MNC Sekuritas
4. Thuba Jazil, Academician, lecturer at the Tazkia Islamic Institute, PIC Capital Market Gallery, Tazkia Islamic Institute, Bogor
5. Dwi Darnita, Practitioner, Phillip Sekuritas

In order to maintain consistency of answers and simplify and shorten the time for filling out the questionnaire, a modified questionnaire was used. The data from the assessment results are then collected and inputted through the Super Decision software to be processed to produce a super matrix form.

*Third*, synthesis and analysis. The data obtained through questionnaires were processed first for each respondent using the Super Decision application. Then a synthesis is carried out to synthesize the results and then an analysis is carried out. Synthesis is done by calculating the geometric mean (geo mean). The geometric mean is obtained as follows:

$$\text{Geometric Mean} = (x_1 \times x_2 \times x_n)^{\frac{1}{n}}$$

Then the rate agreement between the respondents is calculated using the Kendall coefficient of concordance which is denoted by W, in the following manner:

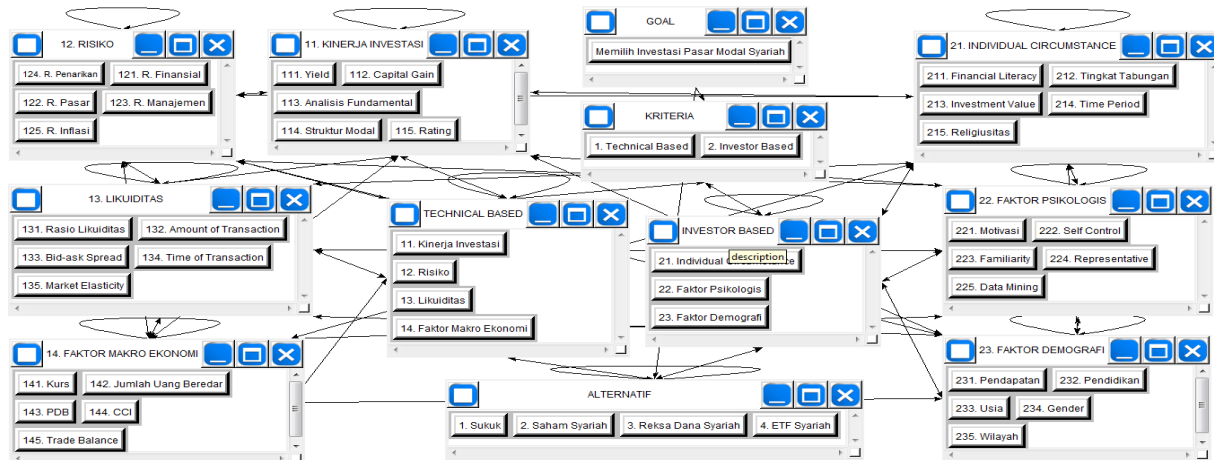
$$W = \frac{12S}{m^2(n^2 - n)}$$

$$S = \sum_{i=1}^n (R_i - R)^2$$

#### 4. RESULTS

**Decomposition.** The identification of factors in this study was carried out by conducting a

literature study which was then validated by one of the expert respondents. The ANP model in this study consists of seven criteria clusters consisting of factors originating from the capital market (technical based) and factors originating from investors (investor based). The complete ANP research framework is as follows:

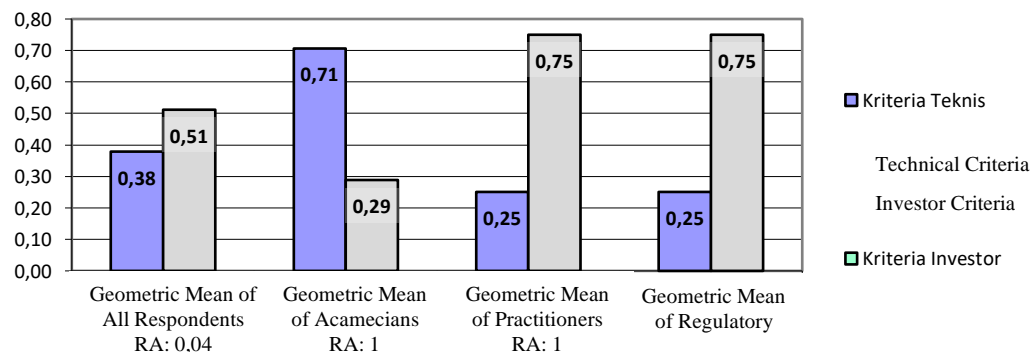


**Figure 4.1:** ANP Network.

Source: Data Processed, 2020, Bogor

After the research model / framework is formed through literature study and interviews and validation with experts, then it is compiled in the form of a pairwise comparison questionnaire, next is to fill out a questionnaire with five experts who are considered competent in the field of Islamic capital markets.

**Synthesis Results of Criteria Cluster.** Based on the research framework, the criteria that are taken into consideration in choosing an Islamic capital market investment instrument are technical criteria and investor criteria. In aggregate, the investor criteria (0.51) have a higher importance than the technical criteria (0.38) with a rater agreement of 0.04 which means that the agreement between respondents is low. Partially the practitioner and regulator respondent groups gave a higher importance to the criteria of investors over the technical criteria with a score of 0.75 and 0.25 respectively with a rater agreement 1 meaning that unanimous agreement was obtained among the practitioner respondents. Meanwhile, academic respondents prioritized technical criteria with a score of 0.71 and criteria for investors of 0.29 with a rater agreement 1 meaning that there was unanimous agreement among academic respondents.

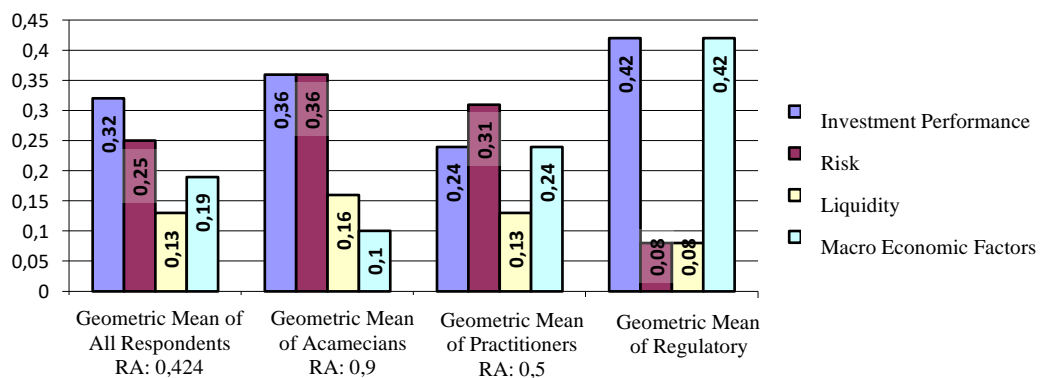


**Figure 4.2:** Geo Mean and Rater Agreement of Criteria

Source: Data Processed, 2020, Bogor

In general, investor criteria have more importance than technical criteria. This is in accordance with the research of Septyanto (2013) that investment is influenced by the investment strategy of investors because it shows the desired return and varies from one investor to another. Variations are influenced by subjective preferences originating from investors. According to Saputra and Anastasia (2013) planning in investment adjusts to the risk profile of investors. So that consideration of investor criteria has more importance than capital market considerations. The influence of investors' views on investment choices is shown by Nafsiah (2014), people who think capital market investment is forbidden choose to invest their funds in houses, land, or gold.

In terms of technical criteria or capital market criteria, the main consideration according to all respondents is investment performance (0.32), then risk (0.25) followed by macroeconomic factors (0.19) and liquidity (0.13) with an rater agreement 0.424 which means quite high. According to academic respondents, investment performance and risk have the same importance (0.36) followed by liquidity (0.16) and macroeconomic factors (0.11) with a rater agreement of 0.9 which means that agreement among academic respondents is high. Meanwhile, according to practitioners' respondents, risk have the highest importance value (0.31) and followed by investment performance and macroeconomic factors that have the same value (0.24), then the last one is liquidity (0.13) with a rate agreement of 0.5 which means agreement among practitioner respondents is quite high.

**Figure 4.3:** Geo Mean Cluster and Rater Agreement of Technical Criteria.

In general, investment performance and risk have the highest importance as a consideration in choosing Islamic investments. This is consistent with Manan (2009) and Safelia (2012) that decisions in investment consist of return (investment performance), risk, and the relationship between risk and return. In investment, there is a term known as high risk high return, meaning that risk is directly proportional to profit (Saputra and Anastasia, 2013). The objective of investment is to obtain profits from the placement of money or funds (Manan, 2009; Syafrida, 2014) so that investment performance becomes a variable that needs to be the main

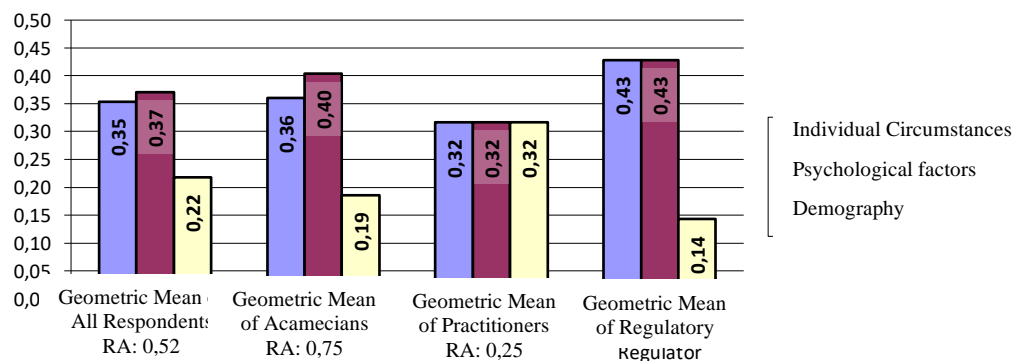


consideration for investors in investing because it is related to the expected investment returns. Then the second is risk. Risk is an uncertainty that causes unwanted loss (Redja, 2007 in Saputra and Anastasia, 2013). For this reason, investors need to consider the risk factors that will be borne and adjust their risk profile before making an investment decision.

Investment is influenced by various factors, one of which is macroeconomic factors (Natapura, 2009; Chang and Chen, 2011; Antonio, 2012; Ardani, 2012; Bartkus, 2013, Auliyah, 2006) so that macroeconomic factors explaining the country's economic conditions need to be considered by investors. in choosing Islamic capital market investments. Consideration of macroeconomic factors is important to complement investment considerations after investment performance and risk. As revealed by Auliyah (2006), macroeconomic factors need to be considered in investing because they affect the beta / systematic risk of Islamic stocks.

The final element of the technical criteria is liquidity. The more liquid it means the easier an investment instrument to be transacted. Liquidity can be a consideration for stock investors because it has a negative effect on stock returns, but the effect is not significant (Ahmad and Zakariya, 2011; Indriastuti and Nafiah, 2017). According to Hadya (2013) liquidity is an important factor that investors need to pay attention to in making investment decisions in addition to returns and risks.

In the investor criteria, according to the opinion of experts, the main consideration is psychological factors (0.37) and individual conditions (0.35), then the last one is demography (0.22) with a rater agreement value of 0.52 which means quite high. According to academic respondents, the main considerations in the investor criteria were psychological factors (0.40) and individual circumstance (0.36), then demography (0.19) with a rater agreement of 0.75. According to practitioner respondents, individual circumstance, psychological factors, and demographics have the same importance (0.32) but the rater agreement for the practitioner respondent group is low (0.25). According to regulator respondents, individual circumstance and psychological factors have the highest importance with the same score (0.43) and then demography (0.14).



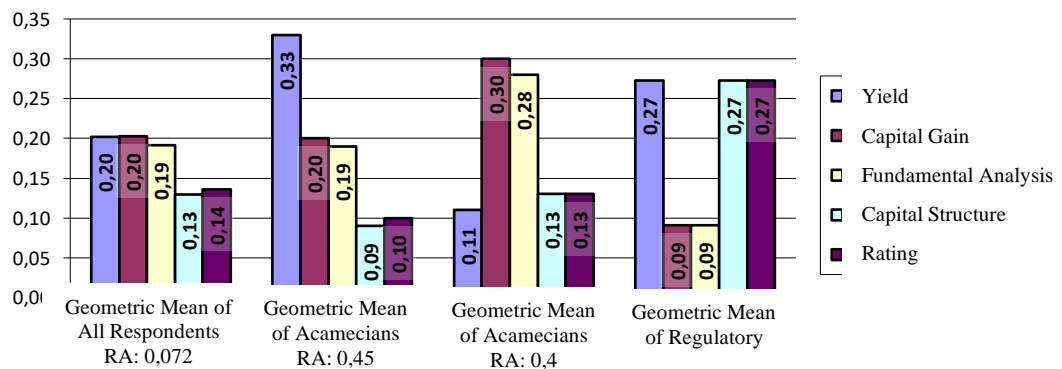
**Figure 4.4:** Geo Mean and Rater Agreement of Investor Criteria.

Source: Data Processed, 2020, Bogor

In general, psychological factors have the highest importance in the criteria of investors because psychology is considered to affect investor behavior in the capital market. Psychological factors are related to feelings, temperament and motivation. The psychological approach reveals that investors as market participants have feelings, temperaments and motivations that can change at any time (Iramani, 2011). The superiority of psychological factors is in accordance with the behavioral finance theory that the psychological aspects affect an investor in making decisions (Candra, 2008; and Iramani, 2011). Which investment to choose and the amount of funds invested by investors are strongly influenced by investor behavior which is influenced by psychological factors.

Next is the individual circumstance. According to research Jennings and Reichenstein, 2006 in Chang and Chen (2011) individual circumstance determine attitudes towards individual decisions. In addition, it is suspected that demographic characteristics will influence investors in investing. Because demographic factors also shape investor behavior in the capital market and are related to the risk profile of investors (Kartasova, 2013; Iramani, 2011; and Saputra and Anastasia, 2013).

**Synthesis Results of Sub Criteria Clusters.** According to the respondents, the elements with the highest importance value in the investment performance sub-criteria are capital gain (0.20) and yield (0.20) with almost the same importance, followed by fundamental analysis (0.19). Next is the rating (0.14) and capital structure (0.13) with a rater agreement value of 0.072 which means low. This means that respondents have different answers. According to academic respondents, yield has the greatest importance (0.33), then capital gains (0.20) and fundamental analysis (0.19). Next is the rating (0.10) and capital structure (0.09) with a rater agreement of 0.45 which is quite high. According to practitioner respondents, capital (0.30) and fundamental analysis (0.28) have the highest importance in investment performance criteria. Then followed by rating and capital structure (0.13) and yield (0.11) with a rater agreement of 0.4 which means quite high. Meanwhile, according to regulator respondents, the yield, capital structure and rating have the highest importance (0.27), then capital gains and fundamental analysis (0.08).



**Figure 4.5:** Geo Mean and Rater Agreement of Investment Performance Sub-Criteria.

Source: Data Processed, 2020, Bogor

Overall, capital gain and yield, which are investment returns, have the highest importance. This is in accordance with the research of Amin and Mustika (2017) that returns have priority weight in choosing the ideal investment. According to Safelia (2012) return is one of the bases for investment decisions. Capital gain has an interest value that is slightly higher than yield. This is in accordance with the preferences of investors who prefer capital gains (Septyanto, 2013). More specifically, stock investors are also more concerned with capital gains than dividends (yields) even though dividends are also a factor that is considered in investment decisions (Kadariya, 2012).

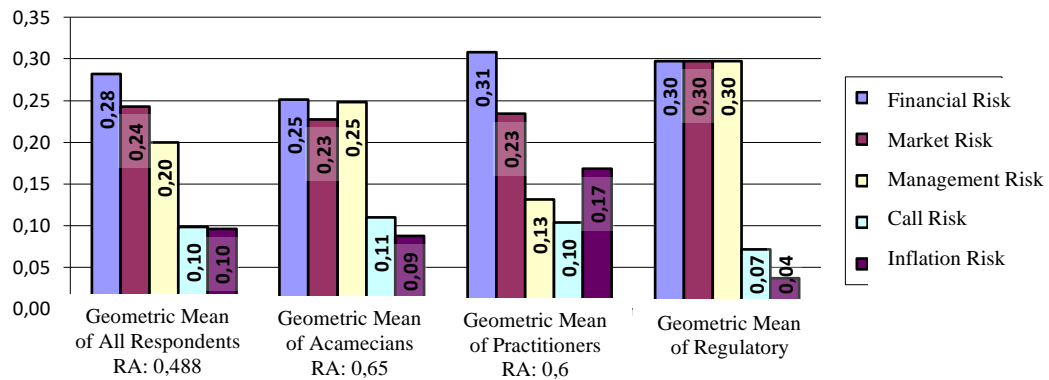
Fundamental analysis is important because accounting information contained in financial reports has relevance value and benefits for investors in terms of making investment decisions (Aprilianto et al., 2014 and Puspitaningtyas, 2012). Fundamental analysis is used to identify the intrinsic value of financial instruments. Analysis of fundamental factors is important mainly in stock investment because fundamental factors affect stock returns, risk, and have the ability to predict stock returns, and also influence investment decisions (Gunawan and Wijiyanti, 2003; Arista and Astohar, 2012; Indra, 2006; Susilowati, 2011; Natapura, 2009; and Agustin and Mawardi, 2014). According to Wahyuni, fundamental factor analysis is very important for investors to make decisions in stock investing.

Next up is the rating. Rating shows how safe it is for investors. The higher the rating, the safer it is to invest. Bond rating is one of the references for investors when buying a bond (Ahmad and Zakariya, 2011). Apart from showing safety, rating needs to be considered because it has a positive effect on stock returns on the IDX (Ahmad and Zakariya, 2011). According to Septiningtyas (2014) the value and rating of sukuk issuance has a significant positive effect on stock returns. Therefore, rating can be used as an investment consideration to complement investment performance.

Capital structure is one of the considerations in choosing a capital market investment because capital structure affects individual investment decisions related to profitability / fundamental analysis which has a high interest in choosing investments (Kadariya, 2012; Isnaini, 2013). Capital structure is important to consider because capital structure (DER) has a significant effect on stock returns and risk (Arista and Astohar, 2012; Susilowati, 2011; Zubair, 2011 in Isnaini, 2013; and Isnaini, 2013). Capital structure is one of the fundamental factors included in fundamental analysis and is a consideration to complement investment performance and risk.

In the risk criteria, the elements that become the main consideration are financial risk (0.28), market risk (0.24), and management risk (0.20). Then is the call risk and risk of inflation (0.10) with a fairly high rater agreement (0.488). According to academic respondents, the most important considerations in risk criteria are financial risk (0.25), management risk (0.25), market risk (0.23). Then the call risk (0.11) and inflation risk (0.09) with a rater agreement of 0.65 which means that it is quite high. Meanwhile, according to practitioner respondents, the main consideration is financial risk (0.31), market risk (0.23), then inflation risk (0.17). Next is management risk (0.13) and call risk (0.10) with a rater agreement of 0.6 which is quite high.

According to regulatory respondents, financial risk, market risk, and management risk have the same importance (0,30), followed by call risk (0,07) and inflation risk (0,04).



**Figure 4.6:** Geo Mean and Rater Agreement of Risk Sub-Criteria

Source: Data Processed, 2020, Bogor

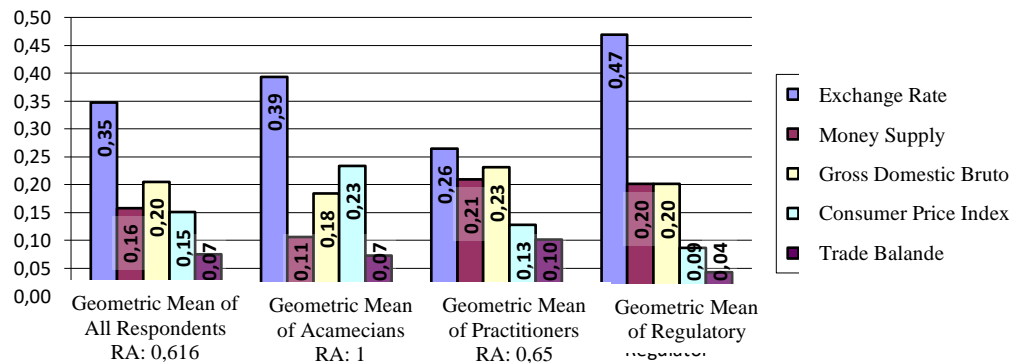
Financial risk is considered to be the most important variable in the risk criteria, this is because financial risk is a risk caused by the inability of stock / bond issuers to meet dividends and principal investment obligations so that investors do not get returns on invested funds and lose the principal on investment. Therefore, according to Puspitaningtyas (2012), investors need to consider market perceptions of the issuer, business prospects, and corporate governance.

Furthermore, market risk is the fluctuation of transactions in the market as a whole. Market risk reduces the value of investment assets. This is consistent with the research of Ahmad and Zakariya (2011) and Indriastuti and Nafiah (2017) that beta / systematic risk (market risk) has a negative effect on stock returns, but the effect is not significant. This is because when market conditions are unstable, investors take steps to buy shares for short-term purposes in the form of capital gains so that investors do not pay attention to market risks. However, it still has high importance because it is a systematic risk that has an overall impact on the market and affects investors' investment strategies.

Management risk needs to be considered by investors, because company policies such as policies related to company investment and dividends have a positive and significant effect on firm value (Fenandar, 2012). The risk of inflation is caused by a decline in people's purchasing power as a result of rising prices for goods in general. Inflation needs to be considered because the high level of inflation indicates that the risk of investing is quite large because high inflation will reduce the rate of return of investment (Isnaini, 2013; Bartkus, 2013). According to Utami and Rahayu (2003) and Nurdiana (2016) inflation has an effect on Islamic stock prices in Indonesia. However, according to Kewal (2012) the effect is not significant on the JCI. According to Antonio et al., (2012) inflation also affects the Islamic capital market in Indonesia.

The next sub-criteria are macroeconomic factors. Overall, exchange rates is the highest priority (0.35). Next are the gross domestic product (GDP) (0.20), the money supply (JUB) (0.16), the consumer price index (CPI) (0.15), and the trade balance (0.07) with the rater agreement 0.616 which means that the agreement between experts is high. According to academic respondents,

the highest interest in the criteria for macroeconomic factors is the exchange rate (0.39), then the CPI (0.23), GDP (0.18), JUB (0.11), and trade balance (0.07) with rater agreement 1, which means that academic respondents have unanimous agreement. According to practitioner respondents the main considerations are the exchange rate (0.26), GDP (0.23), and JUB (0.21). Next is the CPI (0.13) and trade balance (0.10) with a rater agreement of 0.65. According to regulator respondents, the exchange rate has the highest importance (0.47). Next is JUB and PDB with the same value (0.20) and finally the CPI (0.09) and trade balance (0.04).



**Figure 4.7:** Geo Mean and Rater Agreement of Macroeconomic Factors Sub-Criteria.

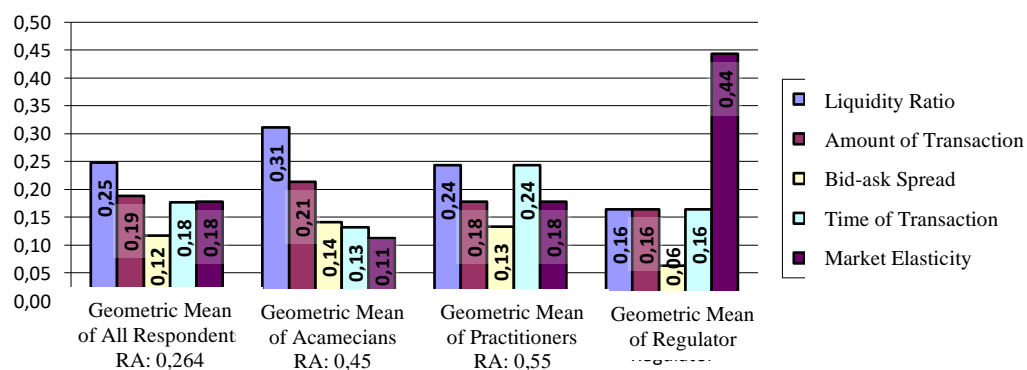
Source: Data Processed, 2020, Bogor

Overall and per group of respondents, exchange rate or exchange rate has the highest level of importance. Exchange rates affect the performance of companies and the economy in general. Exchange rates have a high importance because exchange rates significantly affect share prices, risk and the overall Islamic capital market in Indonesia (Kewal, 2012; Utami and Rahayu, 2003; Isnaini, 2013; Nurdiana, 2016; Auliyah, 2012; and Antonio et al., 2012). Therefore, investors are advised to consider the exchange rate in investing in stocks (Puspitaningtyas, 2012 and Isnaini, 2013).

The next consideration in the criteria for macroeconomic factors is gross domestic product (GDP). The GDP indicator is used as a measure of economic growth. GDP needs to be considered because it has an influence on capital market investment, especially stocks (Bartkus, 2013; Kewal, 2012; and Auliyah, 2006). According to Puspitaningtyas (2012) investors need to consider GDP in investing in stocks. The macroeconomic measures of exchange rates and GDP are easier to use and have a higher importance. Meanwhile, JUB, CCI, and trade balance are influential and can be useful as a consideration in investing (Nurdiana, 2016; Prabowo, 2013; Bartkus, 2013; Isnaini, 2013; Nurdiana, 2016; Puspitaningtyas; Bartkus, 2013) but they are not easy to use by investors.

The last sub-criteria on the technical criteria is liquidity. According to experts, the main consideration in the liquidity aspect is the liquidity ratio (0.25), then the amount of transaction (0.19). Next is market elasticity and time of transaction which have the same importance (0.18). And the last one is the bid-ask spread (0.12) with a rater agreement 0.264 which means it is

quite low. According to academic respondents, the liquidity ratio has the highest importance (0.31) followed by the amount of transaction (0.21). Then is the bid-ask spread (0.14), time of transaction (0.13), and market elasticity (0.11) with a rater agreement 0.45, which means that academic respondents have a fairly high agreement. According to practitioner respondents, liquidity ratios and time of transactions have the highest importance with the same value (0, 24) followed by an amount of transaction and market elasticity with the same value (0.18), and the last one is the bid-ask spread (0.13) with a fairly high rater agreement (0.55). Meanwhile, according to regulator respondents, market elasticity has the highest importance (0.44). Next is the liquidity ratio, amount of transaction, and time of transaction with the same interest value (0.16) and finally the time of transaction (0.06).



**Figure 4.8:** Geo Mean and Rater Agreement of Liquidity Sub-Criteria.

Source: Data Processed, 2020, Bogor

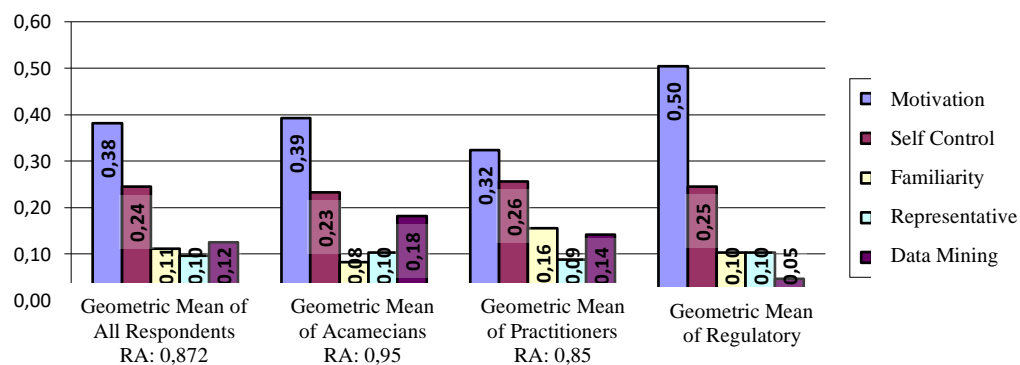
Liquidity relates to how easy it is to make transactions to convert funds into assets to assets and assets to funds without significant price changes or at reasonable prices, including asset transaction costs, bid-ask spreads, deferment fees, and brokerage commissions (Amihud, 1992; Schwartz, 1993 in Chang and Chen, 2011; Huda and Nasution in Jannah, 2014). In terms of liquidity, the more liquid the better, because this means that securities can be easily liquidated and transacted. So that the liquidity ratio has the highest level of importance as a consideration in the liquidity criteria.

Next, the amount of transaction is the amount / value to be transacted and the time of transaction is the time required to complete the transaction. The amount to be transacted needs to be considered because it affects the price and time needed to complete the transaction. Assets that have high liquidity will be easier and faster to transact because of the high volume of transactions.

Next is market elasticity or market elasticity related to the ability of an investment instrument to maintain its intrinsic value. This is consistent with the understanding that liquidity means the ability to complete transactions in a short time and at a price that is reasonable.

The first sub-criteria in the investor criteria are psychological factors. Psychological factors explain the behavior of investors in making investment transactions. The criteria for

psychological factors that have the highest importance are motivation and self-control 0.38 and 0.24, respectively. Then data mining (0.12), familiarity (0.11), and representative (0.10) with a rater agreement 0.872 which means that the respondents have a high agreement. According to academic respondents, motivation has the highest importance value (0.39) followed by self-control (0.23), and then mini data (0.18). Next is representative (0.10) and familiarity (0.08) with a rater agreement value of 0.95. According to practitioner respondents the variables with the highest importance on the criteria for psychological factors are motivation (0.32) and self-control (0.24). Next are familiarity (0.16), data mining (0.14), and representative (0.09) with a rater agreement of 0.85. According to regulator respondent, motivation have the highest importance (0.50) followed by self control (0.25), familiarity and representative (0.10), and data mining (0.05).



**Gambar 4.9:** Geo Mean and Rater Agreement of Psychological Factor Sub-Criteria.

Source: Data Processed, 2020, Bogor

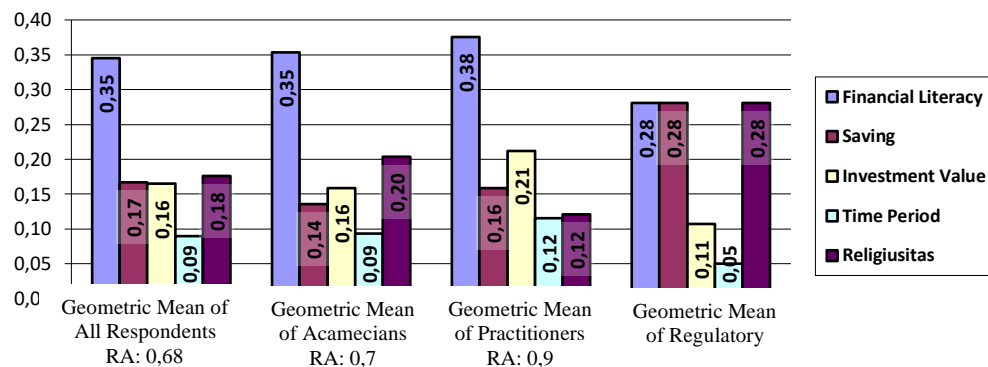
Motivation defines the individual's process of recognizing and taking action to satisfy those needs. Motivation has high importance because it defines the investment objectives of an investor. This objective will explain the differences and intensity of investor behavior (Malik, 2017). According to Situmorang et al. (2014) motivation is strengthened by understanding and age factors influencing investor interest in investing in the capital market. Meanwhile, self-control is an investor's self-control against unpleasant things to receive profits. Self control is the ability of investors to hold back and focus on investment goals. It is important for investors to stay focused and not act irrationally.

Other considerations in psychological factors are representative, familiarity, and data mining. According to research by Agustin and Mawardi (2014), psychological factors of representativeness, familiarity, and data mining are still being considered by Muslim investors on the IDX. However, according to the respondents, the level of importance is still below motivation and self-control.

The next sub criteria are individual circumstance. The main consideration in individual circumstance is financial literacy (0.36). Then religiosity (0.18), savings (0.17), investment value (0.16), and the last time period (0.09) with a fairly high rater agreement 0, 68. Academic respondents also gave the highest importance value for financial literacy (0.35) and then



religiosity (0.23). Next is the investment value (0.16), saving (0.14), and time period (0.09) with a rater agreement of 0.7. According to practitioner respondents, financial literacy has an importance value of 0.38. Then followed by investment value (0.21), saving (0.16), religiosity (0.12), and time period (0.12) with a rater agreement of 0.9. Meanwhile, according to regulatory respondents, financial literacy, saving, and religiosity have the same importance value of 0.28. Then the investment value (0.11) and the last time period (0.06).



**Figure 4.10:** Geo Mean and Rater Agreement of Individual Circumstance Sub-Criteria.

Source: Data Processed, 2020, Bogor

Financial literacy in this case related to capital market investment is investors' knowledge of institutions, products, services and services as well as skills in knowing the features, benefits and risks of investing (OJK, 2017). The financial literacy element is far superior to other elements in the criteria for individual conditions. Investment is an activity that is full of uncertainty and risk, so good investment knowledge is needed, so financial literacy is considered very important as a consideration in making investment decisions. This is proven by Persitiwo (2016), that financial literacy is often the determining factor behind an investor's investment decision, investors with higher financial literacy tend to be better at investing.

Religiosity becomes a variable with the second importance after financial literacy. Religiosity is considered important because it significantly influences investment decisions as Al-Tamimi and Kalli (2009) and Agustin and Mawardi (2014) in their research say that financial literacy and religiosity have an effect on investment decision making. Investors who base their investment decisions on religious considerations will choose to invest in the Islamic index.

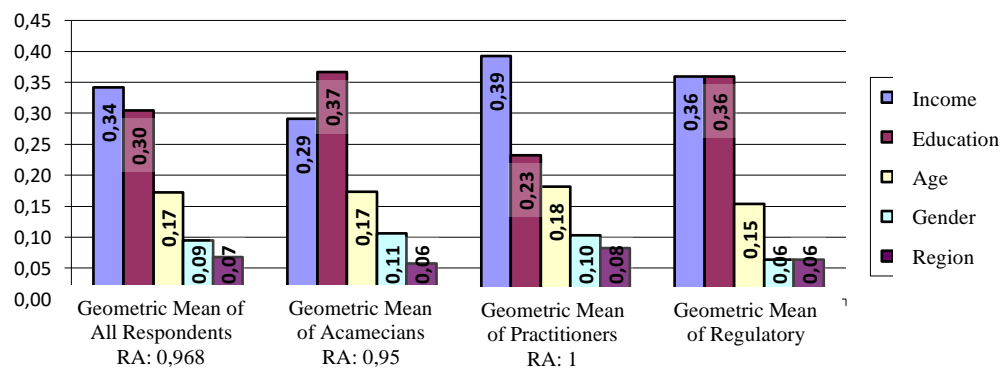
Next is savings. The capital market has the function of bringing together those who have excess funds (savings) with those who are short of funds (Manan, 2009). The excess funds are then placed in the facility with the hope of reaping economic benefits in the future (Syafriada, 2014), so that the level of saving becomes one of the considerations in determining investment options. However, according to Geetha and Ramesh (2012) the effect is not significant in the choice of investment instruments.

The consideration with the two lowest values is investment value and time period. Both get a low importance value according to the respondents so that the priority are after financial literacy, religiosity, and savings. According to Amin (2017), investment value has more importance



than the time period.

The last sub-criterion is demographics. The main considerations in demographic criteria are income (0.34) and education (0.30), then age (0.17), gender (0.09), and region (0.07) with a rater agreement 0.968 which means that the agreement between respondents is very high. According to academic respondents, education (0.37) has a higher importance than income (0.29), then age (0.17), gender (0.11), region (0.06) with a rater agreement of 0.95. Meanwhile, according to practitioner respondents, income (0.39) has a higher importance than education (0.23), followed by age (0.18), gender (0.10), and region (0.08) with a rater agreement 1. According to regulatory respondents, income and education have the same importance (0.36), then age (0.15).



**Figure 4.11:** Geo Mean and Rater Agreement of Demographic Sub-Criteria.

Source: Data Processed, 2020, Bogor

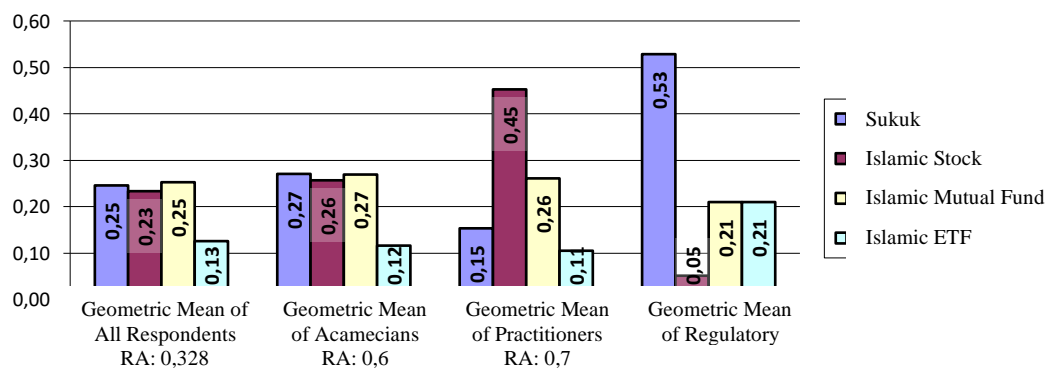
In general, income and education are the elements with the highest importance on demographic criteria, this is because income and education are factors that affect the level of financial literacy apart from work and gender (Al-Tamimi and Kalli, 2009). This is consistent with the research of Rahadjeng (2011), Iramani (2011), Collard (2009), Wibisono (2013), and Embrey and Fox (1997) that the dominant factors affecting investment decisions are income and education. Meanwhile, according to Putri and Rahyuda (2017) income does not have a significant effect on investment decisions. Education and income also affect attitudes towards risk (Collard, 2009; Septiana, 2013; and Saputra, 2013). Therefore, income and education are priority factors that need to be considered in choosing an investment.

Age is a consideration in determining investment because it affects the risk tolerance of investors (Evan in Iramani, 2011; Wibisono, 2013; Kartasova, 2013). According to Saputra and Anastasia (2013) age demographic factors are not related to the risk profile. Although it is related to risk tolerance, according to Geetha and Ramesh (2012) the age group is not significantly related to investment instruments. According to Rahadjeng (2011) age also influences investment decisions in the capital market but is not a dominant factor. So that the value of the importance of age is below income and education.

Furthermore, gender is considered in the demographic criteria. Several studies have shown that

gender is associated with risk profiles and investment decisions (Iramani, 2011; Septiana, 2013; Saputra and Anastasia, 2013; Rahadjeng, 2011 and Putri and Rahyuda, 2017) so that they have an interest in investment considerations. However, according to research by Embrey and Fox (1997) gender is not the main determinant of investment choices, but is influenced by other factors such as employment, wealth, marital status, age and education. Likewise with Collard (2009), according to him, although gender is one of the variables that affects attitudes towards risk, marital status, wealth and income are more influential than gender. This is reinforced by Geetha and Ramesh (2011) that there is no significant influence between gender and investment instruments. So that gender considerations have less importance than other elements in demographic criteria such as income, education, and age.

**Alternative Cluster Synthesis Results.** Based on the research framework and answers of all respondents, the alternative order is sharia mutual funds (0.25), sukuk (0.25), Islamic stocks (0.23) and sharia exchange traded funds (ETF) (0.13) with an agreement value / rater agreement 0.328 means that the agreement between respondents is classified as moderate. According to academic respondents, the alternative order based on the value of importance is sukuk (0.27), Islamic mutual funds (0.27), Islamic stocks (0.26), and Islamic ETF (0.12) with a rater agreement of 0.6 which means agreement between respondents high. Meanwhile, according to practitioner respondents, the alternative order is sharia stocks (0.45), then sharia mutual funds (0.26), sukuk (0.15), and Islamic ETF with a rater agreement of 0.7. According to regulator respondents, the alternative order is sukuk (0.53), sharia mutual funds and Islamic ETFs (0.21), and sharia stocks (0.05).



**Figure 4.11:** Geo Mean and Rater Agreement of Alternative Criteria.

Source: Data Processed, 2020, Bogor

The alternative investment in the Islamic capital market, Islamic mutual funds, sukuk and Islamic stocks according to the respondents have almost the same level of importance. Each instrument has its own characteristics and advantages and disadvantages. Meanwhile, Islamic ETFs whose products are still very limited have the lowest interest value. Based on the release of the Indonesia Stock Exchange on March 15, 2020, there are only three Islamic ETF products.

Overall, Islamic mutual funds have the highest value to be selected as an investment instrument for the Islamic capital market. Islamic mutual funds are investment products managed by

investment managers. Mutual funds can be a solution for beginner investors, investors with small capital or investors who do not have the expertise or time to manage their investments. Mutual fund investment has a lower rate of return than stock investment, but mutual fund investment also has a lower risk. In addition, there are various types of mutual funds that can be selected according to the objectives and risk profile of investors.

Sukuk or Islamic bonds are ownership or share of ownership of the underlying asset being invested. Sukuk are an alternative choice for the respondent group of academics and regulators. Sukuk provide income in the form of coupons that indicate the yield / margin / fee rate. Sukuk is a sharia capital market investment with the lowest risk but still provides returns above deposit interest. In addition, there are sukuk that can be transacted on the secondary market (tradeable).

Sukuk is an investment that will be paid back after maturity. So that the principal is guaranteed, especially the sukuk issued by the government (SBSN). Regulatory respondents give equal importance to yield and rating in investment performance. Sukuk is an investment instrument that pays income to sukuk holders (yield). The amount of yield depends on the rating of the sukuk issuer, government and private. Apart from that, sukuk is also an alternative for the government as a source of funding for the state budget.

Sharia stocks are an alternative choice of practitioner respondent groups. Sharia stocks are an investment instrument that allows investors to get high returns but also has a big risk. Stock investing requires high investment capability and risk tolerance. Currently, there are 426 Islamic stocks or 65% of the total shares on the Indonesia Stock Exchange, so investors must be smart in choosing the shares to buy.

Stock is an instrument that promises a higher return than other investment instruments, but the risks faced are also greater. Therefore, according to practitioner respondents, risk elements have a high importance in the technical criteria / capital market criteria. Practitioner respondents give priority to return for capital gain that is possible to obtain on stock investment compared to sharia mutual funds and sukuk which are not entirely tradable.

## 5. CONCLUSION AND SUGGESTION

**Conclusion.** The considerations in choosing Islamic capital market investments can be grouped into two main criteria, namely: technical criteria or criteria derived from the capital market and investor criteria. The criteria for investors are divided into three sub-criteria, namely: psychological factors (motivation; self-control), individual conditions (financial literacy; religiosity), and demographics (income: education). Technical criteria are divided into four sub-criteria, namely: investment performance (yield; capital gain; fundamental analysis), risk (financial risk; market risk; management risk), macroeconomic factors (exchange rates), and liquidity (liquidity ratio). Alternatives that can be chosen to be an investment choice for the Islamic capital market according to the criteria are: Islamic mutual funds, sukuk, and Islamic stocks.

**Recommendation.** The considerations in having an investment in the Islamic capital market come from various sides, both from the technical side and from the side of the investor itself,

and each has its own sub-criteria and elements. These considerations can be useful for investors and capital market practitioners as a material for consideration in investing and developing capital market products, as well as for regulators to formulate policies and regulations related to the development of Islamic capital markets in Indonesia such as increasing the level of financial literacy in society and striving for currency stability.

This study has limitations because it only uses an expert approach in developing criteria and assessing priorities. Suggestions that can be given are to conduct research by considering the preferences and risk factors of investors in order to choose Islamic capital market investment instruments. Judgments based on the predominant investor criteria (motivation / preference; financial literacy; education; income).

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